

EPIDEMIC VAGINITIS IN CHILDREN.¹

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It has long been the opinion of clinicians that the clinical and bacteriological methods ordinarily used for the differentiation of gonococcus from other forms of epidemic vaginitis have not been sufficiently perfected to make them absolutely reliable. The literature of this subject, including the "Report of the American Pediatric Society on Vaginitis in Childhood," which was made to this Society in 1915, indicates that the bacteriological technic of this disease involved in the accurate diagnosis of gonococcus vaginitis, must still further be improved and simplified before it can be absolutely relied upon for the accurate diagnosis of epidemic vaginitis in institutional and private practice.

There is perhaps little doubt in the minds of pediatricians, as well as bacteriologists, that a large percentage of these cases are due to the gonococcus, and there is also no question but that the bacteriological tests as now made as aids in the diagnosis of gonococcus vaginitis are essential and are of the greatest value, and that at the present time we must rely almost wholly upon these tests in making our diagnosis of this condition, but the fact remains that the routine staining method for the Gram-negative, intracellular, biscuit-shaped diplococcus, which is chiefly relied upon in making the diagnosis of this disease, is not altogether satisfactory.

PREVALENCE OF EPIDEMIC VAGINITIS IN CHILDREN. Vaginitis is now recognized as one of the most prevalent infections in most of our large cities. This is especially true in hospitals and other institutions which care for female children. At the present time there are about seventy-five of these cases being cared for by the Cincinnati Hospital and the Children's Clinic, which is run in coöperation with this hospital. Under careful treatment and rigid quarantine regulations the number of these cases in the Cincinnati Hospital and Clinic have very materially diminished during the past winter. It is a significant fact that the vast majority of our new cases come from other institutions, such as orphan asylums and children's homes, and that nearly all of these new cases occur in children under school age. My inference, therefore, is that the public schools of Cincinnati have very little, if anything, to do with the spread of this contagion.

The marked prevalence of this disease in most of our large cities, as well as its intractability to treatment and its defiance of ordinary quarantine regulations, is recognized as presenting one of the most

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difficult public health problems presented by any of the contagious diseases.

The collective report of the committee above referred to indicates that the disease is on the increase. We may, therefore, assume that epidemic vaginitis is a contagious disease very prevalent among female children in our large cities, and that the means now in vogue for the cure of this disease and for preventing its spread are quite unsatisfactory.

During the long experience which I have had with this disease in Cincinnati there has never been an instance in which the disease was contracted by adults, although these cases are constantly under the care of female nurses. In the report of the committee above referred to, "85 physicians have never known of an instance in which a nurse was infected during a ward epidemic of vaginitis, 10 physicians have seen such an occurrence." It appears from these facts, therefore, that while the disease is very contagious in childhood, adults are practically immune. No satisfactory explanation has been offered as to the immunity of adults from this disease.

MEANS BY WHICH THE CONTAGION IS TRANSMITTED IN CHILDREN. In children this disease is not in the ordinary sense a venereal disease, that is to say, the manner of its transmission is not by sexual contact. The contagion is carried to the vagina of the child in some way other than that in which gonorrhea is spread among adults.

The grouping of the various causes by which the disease may be spread among children is outlined in the report of the committee above referred to as well as in the voluminous literature of this subject.

The cases due to sexual contact are practically negligible. Here we have another marked difference between gonococcus vaginitis in children and in adults. It is a remarkable fact that a disease which in the adult is rarely transmitted in any other manner than by sexual contact should appear in children as a violent epidemic, spread in an altogether different way. The explanation of the difference in the manner by which this disease is spread in children and in adults has not received a satisfactory explanation. That the adult is very susceptible to the gonococcus contagion is a well-known fact; that children are equally susceptible to this contagion is fully recognized, and yet the manner in which the disease is spread in the child and in the adult could not be more unlike if in each instance it was an entirely different contagion. Is the explanation of these facts to be sought in some unrecognized change in the organism or organisms producing the disease, or in some peculiar change in the susceptibility of the vaginal mucous membrane to this contagion at different ages in the life of the individual?

DURATION AND COURSE OF EPIDEMIC VAGINITIS UNDER TREATMENT. The report of the above committee as to the time required for a cure summarizes as follows: "53 of 71 physicians consider that the time varies from six weeks to six months. One believes that the cure comes only at puberty." That the absolute cure of this disease from a bacteriological stand-point is a matter of great difficulty in a very large percentage of the cases is the opinion of a large number of competent observers. That the disease very commonly, if relapses are taken into consideration, continues for years, even under careful medical supervision, is attested by the literature of this disease.

Every institution which pursues the careful follow-up system of its discharged cases finds that a large percentage of apparently cured cases are subject to relapse. My desire here is simply to call attention to the intractability of these cases under careful methods of treatment, and to the fact that many of them continue for years; yet notwithstanding the prevalence of this disease in childhood the disease practically disappears at puberty. There is no question in my mind but that there is a tendency to a spontaneous cure of this disease at this time of life.

In the report of the above committee only 11 out of 96 physicians were found who "had as adult patients those whom they had treated for vaginitis during childhood." When one considers the prevalence of this disease in young girls and its rarity in older girls, except when produced by sexual contact, one cannot but conclude that this disease in the vast majority of instances is self-limited. As a rule, it disappears as the child approaches puberty, under simple methods of home treatment such as ordinary cleanliness and mild soothing applications applied to the external genitalia. To my mind there is no other explanation for the disappearance of this disease at puberty, for surely the results of our present methods of treatment do not justify us in believing that the sudden disappearance of this disease at this period in the age of the child is due to systematic medical treatment.

COMPLICATIONS AND SEQUELAE IN EPIDEMIC VAGINITIS IN CHILDREN. My own experience as well as the literature of this disease leads me to believe that complications and sequelae of epidemic vaginitis in children are much less common than gonococcus complications and sequelae in the adult. Since 1905, when I encountered and reported an epidemic of this disease in the Cincinnati Hospital, I have had a very large experience with this disease, and during these years I have observed but one possible gonococcus complication (arthritis) in all of the cases that have come under my observation. In the report of the committee above referred to 39 per cent. of the physicians consulted "have seen more or less severe systemic complications," I believe, therefore, that complications and sequelae in epidemic vaginitis in children

are vastly less common than are gonococcus complications in the gonorrhea of adults.

METHODS OF TREATMENT AND THEIR COMPARATIVE VALUE. In the wide experience which I have had with this disease since 1905 when I reported an epidemic in the Cincinnati Hospital, I have had an opportunity to try many methods of treatment which have been suggested and I have been forced to the conclusion that the simpler methods of treatment such as irrigating the infected parts once a day with two quarts of a normal saline solution followed by the injection of 2 or 3 ounces of a 1 per cent. solution of nitrate of silver are more efficacious than the more severe forms of treatment involving the direct application of strong astringents and antiseptics to the vaginal vault and neck of the uterus. There can be no question as to the advisability of local treatment in these cases; such treatment undoubtedly shortens the course of the disease, and it is not improbable that one observer may get better results by reason of his superior technic with a certain line of treatment than other observers using the same treatment with perhaps less care and skill in the technic.

It is my belief that the intractability of these cases in hospital wards is largely due to reinfection. For this reason we have in the Cincinnati Hospital divided the vaginitis wards into four compartments. New cases are admitted into compartment one and there remain until the Gram-negative diplococcus can no longer be found in the smears taken from just within the vagina. They are then transferred to compartment two and are technically known as first negatives. There they remain under treatment for a week, and if the smear from the vagina at the end of that time is negative they are transferred to compartment three, where the treatment is continued, and are there known as second negatives. If at the end of a week a third negative smear is obtained they are transferred to compartment four and treatment is discontinued. Here they remain for a week or ten days, and if at the end of that time the smears from their vaginas are still negative, they are discharged to the institutions from which they came or into the care of the children's clinic which continues to look after them for a number of weeks to insure their convalescence.

EVILS WHICH MAY RESULT FROM THE TREATMENT OF EPIDEMIC VAGINITIS. I have been much impressed with the idea that physicians have not given sufficient attention to the ill effects which may result from the long-continued local treatment of these cases. In the vaginitis wards of the Cincinnati Hospital my attention was recently called to the fact that a small percentage of the children in this ward were practising masturbation, and an inquiry developed the fact that three older girls of school age who had been in the ward for a long time were teaching the newcomers all kinds of bad habits.

They were found to be imitating the physicians in making cul-

tures by introducing instruments into the vaginas of the younger girls. It was therefore felt that it was absolutely necessary to isolate these older children in order to prevent the development of these bad habits in the younger ones.

It is a self-evident fact that more or less harm may result from the frequent handling of the genital organs of these young girls, and this is especially true in cases in which the treatment must be continued over a long period of time. I here call attention to the ill effects which may result, especially from severe and frequent treatment not for the purpose of advocating the discontinuance of local treatment in these cases, but for the purpose of noting the fact that bad as well as good results may follow such treatment.

I have also found that very serious social problems have developed in the treatment of these cases in their homes. At the present time there are 45 of these cases in Cincinnati treated in their homes under the supervision of the Children's Clinic. These cases have been reported to the health authorities, and are therefore not permitted to attend school. They are, I believe, practically the only cases which are reported to the Health Department in Cincinnati. Most of these children are of school age, and many of them, by reason of the fact that they are excluded from the schools, are not only deprived of the educational advantages which the public school offers but they spend a large portion of their time in the streets under unfavorable hygienic and moral conditions. Many of these children go on for months with little or no vaginal discharge, and yet we may be unable for any length of time to obtain from them negative smears indicating that they are from a bacteriological stand-point cured of this disease.

I have been appealed to many times as to the injustice which is being done these children, and yet I have found no way of solving the problem. It is my belief that hundreds of these cases in every large city run a mild course and are unrecognized; these children go to school apparently without spreading the contagion; they have little or no treatment, and yet after a time they spontaneously recover.

It can be seen from the above outline which I have presented that the social and public health problems which this disease presents are very great, and that our knowledge of the disease, from the stand-point of diagnosis, quarantine, and treatment, are not sufficient to enable one to handle this question in a satisfactory manner.

In discussing the question of the handling of these cases by public health authorities, and whether or not epidemic vaginitis should be classed among the reportable diseases, let the physicians of this country ask themselves whether, in the present state of our knowledge of this disease, they would be willing to report to the health authorities a case occurring in their own families

the diagnosis of which rested solely upon the morphological and staining characteristics of the organisms found; that is to say, upon the fact that a Gram-negative, intracellular, biscuit-shaped diplococcus was found. If the term gonorrheal or gonococcus vaginitis were for the present dropped from the literature and the term epidemic vaginitis substituted (this name not suggesting to the lay mind a venereal disease), I think it would be much easier to handle these cases from a public health stand-point.

It appears to me very evident that until we are in a position to make vaginitis a reportable disease and enforce the ordinary health regulations which are used in other reportable diseases we are not justified in excluding these cases from our public schools.

HOW CLOSELY DO THE WASSERMANN REACTION AND THE PLACENTAL HISTOLOGY AGREE IN THE DIAGNOSIS OF SYPHILIS?

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THE unimpeachable diagnosis of syphilis is made upon the demonstration of the *Spirocheta pallida*. After this fact became established the hope was entertained that the organism might be found regularly in syphilitic placenta, but competent investigators declare that although prolonged search (Trinchesi¹) is more frequently successful, the spirochetes are readily demonstrable in the placenta approximately in every third case of syphilis (Mohn,² Bab,³ Graefenberg⁴). Generally, therefore, the diagnosis rests upon the less specific evidence of the histological changes in the chorionic villi or the Wassermann reaction in the mother's blood. As neither of these tests affords absolute proof regarding the presence of syphilis, we should know how frequently they point to the same conclusion; and, if not always, is one test more reliable than the other?

Besides variations in the Wassermann reaction due to the technic

¹ Bakteriologische und histologische Untersuchungen bei kongenitaler Lues, München. med. Wchnschr., 1910, lvii, 570.

² Die Veränderungen an Placenta, Nabelschnur, und Eihäuten bei Syphilis und ihre Beziehungen zur *Spirochete pallida*, Ztschr. f. Geburtsh. u. Gynäk., 1907, lix, 263.

³ Bakteriologie und Biologie der kongenitalen Syphilis, Ztschr. f. Geburtsh. u. Gynäk., 1907, lx, 161.

⁴ Der Einfluss der Syphilis auf die Nachkommenschaft, Arch. f. Gynäk., 1909, lxxvii, 190.